What is Claimed Is:

Sub A1

1. A RAID controller which accesses an access request area on logical volumes distributed and stored on a plurality of physical disks according to a disk access request from a host device, comprising:

a plurality of physical disk groups which are in-charge of different logical volumes respectively where one logical volume is distributed to a plurality of physical disks to form redundant groups;

a plurality of management modules which are in-charge of plurality of said redundant groups respectively and issuing a logical format request for each area of said logical volume by referring to a management table for managing progress information of the logical format processing of said logical volume; and

a plurality of lower layer modules for accessing said physical disk according to the processing request of said management module,

wherein each said management module has:

a plurality of said management table for being in-charge of said plurality of redundant groups; and

a queue for queuing said disk access request,

and wherein each said management module, according to said disk access request, judges whether all the access request areas have been logically formatted referring to said

management table, and when judged as formatted, requests said disk access to said lower layer module, and when not formatted, issues a logical format processing request and queues said disk access request in said queue,

and when no disk access request exists in said queue, searches an unformatted area from said management table, and issues a logical format processing request to said lower layer module.

2. The RAID controller according to Claim 1, wherein, when one management module has an abnormality, another management module executes the logical format processing of the physical disk group charged by said one management module.

3. The RAID controller according to Claim 1, further comprising a RAID management module for restoring said management table of the physical disk group which one management module is in-charge of in a management module other than said one logical format management module using a management table of another management module when said one management module has an abnormality.

4. The RAID controller according to Claim 3, wherein said RAID management module executes said restoration referring to a configuration table where the RAID configuration is stored.

5. The RAID controller according to Claim 1, wherein said management table manages the progress status of said logical volume in logical format processing units by bit maps.

6. The RAID controller according to Claim 1, wherein said management module updates said management table for managing said progress information at the completion of execution of logical format processing request from said lower layer module, and searches said queue at the completion of execution of said logical format processing request, and issues said disk access request, for which said logical format has completed, to said lower layer module.

7. A RAID control method for accessing an access request area of a plurality of physical disk groups which are in-charge of different logical volumes respectively where one logical volume is distributed to a plurality of physical disks to form redundant groups according to a disk access request from a host device, comprising:

a step of issuing a logical format request for each area of said logical volume referring to a management table for managing the progress information of the logical format processing of said logical volume;

a step of judging whether all of said access request areas have been logically formatted or not by referring to said management table according to said disk access request;

a step of requesting said disk access to a lower layer module which accesses said physical disk when judged as formatted;

a step of issuing said logical format processing request and queuing said disk access request to a queue when not formatted; and

a step of updating said management table having redundancy according to the completion notice of said logical format processing from said lower layer module.

8. The RAID control method according to Claim 7, further comprising a step of executing a logical formatting of said physical disk group which one logical format management module is in-charged of by another logical format management module when said one logical format management module has an abnormality.

9. The RAID control method according to Claim 7, further comprising a step of restoring the management table of the physical disk group which one logical format management module is in-charge of in a logical format management module other than said one logical format management module using a management table of another logical format management module when said one logical format management module has an abnormality.

10. The RAID control method according to Claim 9, wherein said restoration step comprises a step of executing said restoration referring to a configuration table where the RAID configuration is described.

11. The RAID control method according to Claim 7, wherein said management table manages the progress status of said logical volume in logical format processing units by bit maps.

12. The RAID control method according to Claim 7, further comprising:

a step of searching said queue at the completion of execution of said logical format processing request; and

a step of issuing said disk access request for which said logical format has completed to said lower layer module.